SMALLPOX ON AN INDIAN RESERVATION

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To show some of the varied experiences and work of a New York State supervising nurse, I submit to the JOURNAL these extracts from notes made in a recent smallpox epidemic at the Tuscarora Indian Reservation, and in view of the fact that at the present time, May, 1916, numerous cases of smallpox are occurring all through central and western New York, where the anti-vaccination campaign has been raging for four or five years, I am appending some notes, by a physician, on diagnosis and experiences.

This recent epidemic was handled in a somewhat different manner from that which the older Indians give an account of, which occurred on this Reservation about forty years ago. At that time, after many deaths had occurred, the chiefs called a meeting at the Council House and agreed that something must be done to cure the cases and to check the spread of the disease. They finally decided on rattlesnake oil as its most deadly enemy. They succeeded, after great difficulty, in securing sufficient oil, in carrying out the treatment but with the result that the mortality did not decrease and more and more cases developed. Other treatments just as ridiculous were tried, but to no avail. Finally, in desperation, the few Indians who had not had the disease, submitted to vaccination.

On October 6, 1914, the health office of Lewiston reported to Dr. Edward Clark at Buffalo, sanitary supervisor, State Department of Health, a suspected case of smallpox on the Tuscarora Indian Reservation, six miles from Lewiston. The case was ordered quarantined and all known contacts were vaccinated. It was believed that there would be no further trouble. This Indian had come from the Tuscarora Reservation in Canada where an epidemic was in full blast. It was later discovered that a family consisting of father and mother and two children had contracted mild cases from this man and had not been ill enough to require the attention of a physician but had wandered all over the reservation and an Indian who worked in the little general store near the school house had contracted it, thus nearly everyone on the Reservation had been exposed. About November 28 there were fourteen fully developed cases. The conditions were reported to the State Department of Health and Dr. Clark was authorized to take the matter in hand.

My first visit to the Reservation was made on November 30. In order to catch the 6.30 a.m. train from Buffalo, I was called at 5 o'clock. It was raining and cold and dark as midnight when I started out. After arriving in Lewiston there was a drive of six miles in the rain and cold before me. Dr. Clark had been at the Reservation the two previous days and had called a meeting of the chiefs to urge vaccination of the entire population and had quarantined the known cases; he had followed up and vaccinated many contacts and searched houses that had been reported as concealing cases.

On my first visit ninety Indians were vaccinated at the Council House. The chiefs and their families and all the most prominent and well-to-do Indians were there that day. It was arranged to go again on December 2, and we urged all those present to tell their friends of the free vaccination. After this not another case of smallpox developed except in one family where the eldest child had already come down and the other members refused vaccination. They all developed the disease one after the other, six cases. In this one family I had the opportunity of seeing the disease in all its stages.

It was found necessary to make a house to house canvass of the entire reservation covering more than 4 square miles and consisting of a population of 425 people in 100 homes.

In one house a child was sick in bed upstairs, but nothing serious, the mother said. At that moment one of the chiefs whom the doctor wished to see, passed by on the road and he ran out to catch him. When the doctor returned he found a perfectly healthy child in bed. Upon further search he found another child, broken out with smallpox, wrapped up in an old piece of carpet in the corner of the room. The mother had changed the children during the doctor's absence. This shows the thoroughness with which it is necessary to work in order to get hold of the cases.

Special attention was given to the children in the homes that were quarantined. The regular rations of the poormaster are pork and flour. I expressed myself very freely in the beginning on the proper diet for children shut up in quarantine. I am glad to say that these children received the kindest attention and most nourishing and wholesome food. In the family referred to the eldest girl, age eighteen, came down with smallpox, the other members of the family, father, mother and three other children, refused vaccination and one after another had the disease, some of them very severe cases. By the time the eldest girl was convalescent, the father was very ill and the girl had all the outdoor work to do, drawing water and chopping the wood. She had no shoes, so it was necessary to furnish her with them at once.

The Indian does not dread smallpox as much as he dreads quarantine and the loss of trade. They nearly all make and peddle something, bead work, moccasins, etc. I asked a young Indian man why he was being vaccinated; he said because he wanted a certificate that would let him into Niagara Falls. I asked a young woman who had been at Carlyle the same question, she said, because she did not want to get smallpox. This brings to mind the point that the more ambitious young Indians who go away for an education and do not stay out in the world, if they return to the Reservation, do very little to help their race; they seem to settle back at once into their old habits and mode of living. Ordinarily they chop enough wood and secure enough food to last a day or two and thus they live from hand-to-mouth, though many of the chiefs are very well to do. The women as well as the men chop wood but it was very noticeable that the men and boys had the sorest arms and most of them said they supposed it was because they worked too hard. The wife of one of the chiefs, when she rolled up her sleeve said she was ashamed of her big black ugly arm, that it got that way from chopping down big trees. She had chopped down as many as any man and she liked to do it. The wife of another chief, very well to do, with a good home, but untidy and disorderly, invited us to hear her new pianola. She proceeded to play it, in a pair of rubber boots that would fit the biggest traffic policeman on Fifth Avenue, but she played with understanding and feeling. All her music was high class and she showed keen appreciation of it.

The oldest woman on the Reservation is a self-trained midwife. She has delivered more than a thousand cases. Now most of the Indians send for the doctor to care for confinement cases. The infant mortality here is dreadful. Many families are childless or have only one living child, though the wife has given birth to many children. Many of them say they have lost numbers of children from cholera infantum. I gave the booklet *Your Baby* to all women who came to the Council House. I also distributed tuberculosis and farm sanitation pamphlets from the State Department of Health.

All during the work of scrubbing up of the arms, vaccination and dressings at the Council House, and on the home visits, I discussed and instructed in health matters to suit the individual needs. Many subjects came up. In any case where I thought my advice or opinion was not sufficient, I would turn it over to the doctor. Dr. Clark himself also took up many health matters with the individual Indian. I found in comparison that the Indians average very favorably with the whites who live in the isolated farming regions and are way ahead of the several townships that I recently canvassed for tuberculosis cases.

I found in some of my work among the white people in rural districts what seemed to me hopeless poverty, ignorance, prejudice and neglect of the most ordinary health matters. I found the flies so thick and disgusting that when meal time came I could not eat. I saw in proportion more defective children and adults, bad teeth, general emaciation and apparent anemia in this rural district than I had ever noticed before in any of my work.

At one of the county fairs where the State Department of Health sent a Child Welfare Exhibit, I commented on the number of people who were deformed, defective and generally "queer." I was told that they came from the farm districts. The reason there seemed to be so many in proportion, was that the best people of that particular city never came to the Fair.

On this Indian Reservation, at least, we saw no congenital deformities and no mental defectives though of course the average mentality of the Indian is not high. The Indians are more amenable than the poorer white people, they are like children and wait for some one to lead them. They do not help one another at all. Even the Indians whose arms were sore and painful got no assistance from one another in putting on or taking off their coats and rolling up the sleeves, to have the arms dressed. I made a special point of showing a cordial, friendly feeling for all, especially the women and children.

In all, I made eight trips to the Reservation. These trips were so hard and the hours so long that I would found myself almost out of commission the following day, but the work was most interesting and satisfactory and I feel that a great deal was accomplished aside from controlling the smallpox epidemic. This is proved from the fact that just after the epidemic, this year, the Indians of their own accord turned their regular New Years' celebration at the Council House into a health meeting and asked Dr. Clark to lecture to them, which he did. Finally, I feel that we have given this locality some lessons in public health work and in social service and I am sure the State Department of Health has won the confidence and friendship of the people of the surrounding towns as well as of the Indians at this Reservation.

As cases of smallpox occur frequently in this state, and as chickenpox, especially in adults, is also prevalent, it may be worth while to give the differential diagnosis of these two diseases as dictated to me by Dr. E. Clark who is conceded to be an authority.

The eruption in smallpox is a deep-seated eruption involving the *cutis vera*, while the eruption in chickenpox involves the epidermis only or at best the superficial layers of the *cutis vera*.

The eruption in smallpox presents certain well defined and typical stages

and the lesions in a certain area are always of one distinct type, that is, they are always either papules, vesicles or pustules. On the other hand, in chickenpox the lesions in a certain small area, even when in close proximity to each other, are of various types. In an area no larger than a half dollar, in chickenpox, we may find macules, papules, vesicles, pustulated and desiccated vesicles in close proximity. The eruption in chickenpox comes in successive and reappearing crops in the same area. This never occurs in smallpox. When the papules begin to show themselves in smallpox all of the papules that will occur in a certain area show themselves in a very short time and do not successively reappear. The areola surrounding the vesicle or pustule of smallpox is indurated, elevated, hard to the touch and of a carmine red color. In chickenpox the areola surrounding the vesicle is not indurated except where the skin is drawn tight over a bony surface, as the forehead, which produces what some authors call a shot-like feel; this fact alone leads to many errors in diagnosis for the authors have inculcated the idea that this shot-like feel is found only in smallpox. It occurs in measles, acne, drug rashes and even in rashes produced by gastro-intestinal disturbance in those locations where the skin is close to the bony tissue. The color of the areola in chickenpox is more of an orange red than a carmine and when the vesicle breaks down black crusts occur instead of the yellow or gray scab which we see in smallpox. The crusts in smallpox are seldom very dark except in the hemorrhagic type or in the cases where scratching or irritation has produced bleeding. The shape of the vesicle or pustule in smallpox is generally almost perfectly cylindrical, and before umbilication takes place, it stands out prominently like a lentil or split pea on the skin. In chickenpox the vesicle may be irregular in shape or distinctly ovoid which type is frequently seen on the trunk of the body, especially on the abdomen and loins.

As to location, in smallpox the eruption appears first on the face, particularly the forehead and nose, then on the hands, then on the feet, lastly on the trunk. This disease shows a decided predilection for the face, hands and feet. Except in very severe cases there is not much eruption on the trunk. It occurs on the soles of the feet, the palms of the hands and on both the hard and soft palate. On the soles of the feet and the palms of the hands before the papule shows on the surface it may be felt through the thick skin giving to the sense of touch, the feeling of a small foreign body imbedded therein. Chickenpox, especially in cases where the eruption is profuse, shows a predilection for the trunk of the body rather than for the face, hands and feet and may occur simultaneously with or before the eruption shows itself on the face or hands. This is especially true in cases of chickenpox in the adult. If you close your eyes, and with your finger or thumb, properly protected, break one of the vesicles in smallpox and run your finger back and forth over it, you will still feel the hard indurated base of the lesion. If you do this in a case of chickenpox, you will detect a decided absence of this hard, indurated base.

It would seem that many authors and physicians believe that chickenpox seldom, if ever, occurs in adults. This is absolutely false teaching, as verified by my experience. I have seen in the past five years over three hundred cases of chickenpox in adults. When it occurs in adults the eruption is generally much more profuse than it is with children and at times is found on the palms of the hands, on the soles of the feet and on the hard and soft palate, also on the scalp.

As a rule, when there is smallpox, chickenpox is generally very prevalent

and I have seen chickenpox and smallpox in different members of the same family at the same time, each presenting its own particular diagnostic characteristic.

If any one therapeutic measure has been proven by long years of experience of incalculable value to the human race, it is vaccination for the prevention of smallpox. The statistics of the world relating to smallpox and vaccination indisputably prove that more than 90 per cent of all cases of smallpox occur in persons who have never been successfully vaccinated and that less than 10 per cent of all cases have occurred in persons who have been vaccinated at any time during their lives. In view of these well-established facts, it is an absolute waste of time and effort to enter into any discussion at this late day as to the value of vaccination as a prophylactic measure against smallpox. I am radically opposed to all spasmodic efforts in vaccination; by this I mean that it is unwise to let the people in any community go unvaccinated until an epidemic of smallpox makes its appearance. If this rule were followed there would be some communities where in the course of a generation no vaccination whatever would be done, with the result that the entire community would be a distinct menace to the surrounding country and state, if smallpox should make its appearance. My firm belief is that all children, unless physically incapacitated, should be vaccinated in the first two years of their life, or at least before they are allowed to enter a public or private school.

DELAWARE

"There is a notion, ... which is becoming more prevalent among the profession of late, that natural labor should be curtailed as much as possible. . . . . The old, time-tried, time-proved, and time-honored 'watchful expectancy' in the conduct of labor has been replaced by a polypragmasia, pernicious in its effects, immediate and remote, and for both mother and child. Methods to shorten the time of labor have been multiplied and great virtues have been claimed for them. One writer brazenly advances as a virtue the saving of the obstetrician's time and sleep. Without doubt, protracted and painful labor does weaken the parturient and requires a longer convalescence, but there are no permanent effects. In natural labor a few hours more or less makes no difference in the immediate recovery. Study of the rapidity of the recovery of women after delivery will show that the main factor in producing slow convalescence is the injury inflicted by labor, or operative delivery. The amount of surgical trauma determines the smoothness of the recovery, even more than the stress of the nerves. The women recover from the latter after the first good sleep, but require much longer to recover from their wounds. From this point of view we must commend the use of anesthetics in the early stages of labor. They permit the parturient canal to be properly dilated. Unfortunately, some of them have the disadvantage of endangering the child and thus necessitating operative interference on its account. The number of injuries spared by the anesthetic is thus made up by the artificial deliveries."—*Joseph B. de Lee, in the Journal of the American Medical Association.*